

Appl. No. 09/035,932  
Arndt. Dated June 18, 2004  
Reply to Office action of March 24, 2004

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

- 1        1. (currently amended): A method of making a web of conductive filler, comprising the steps of:
  - 3            placing a core material onto an interior surface of a web of conductive layer material comprised substantially of including substantially non-conductive fibers;
  - 4            and
  - 7            turning first and second edges of the conductive layer material upward, folding the first edge of the conductive layer material over the core material,
  - 8            and folding the second edge of the conductive layer material over the first edge of conductive layer material.
- 1        2. (original): The method according to claim 1, further comprising the step of placing a web of adhesive layer material onto the interior surface of the web of conductive layer material.
- 1        3. (previously presented) The method according to claim 2 wherein said web of conductive layer includes the substantially non-conductive fibers impregnated with a conductive resin.
- 1        4. (currently amended): The method according to claim 1, further comprising the step of placing a web of adhesive layer material onto the exterior surface interior of the web of conductive layer material.
- 1        5. (previously presented) The method according to claim 1 wherein said web of conductive layer includes the

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3 substantially non-conductive fibers impregnated with a  
4 conductive resin.

1 6. (currently amended): A method for making a conductive  
2 filler material comprising the steps of:

3 selecting a web of conductive layer material comprised  
4 substantially of non-conductive fibers; said web of  
5 conductive layer material having an interior surface  
6 and an exterior surface;  
7 positioning a web of non-conducting core material onto  
8 said interior surface of said web of conductive  
9 layer material;  
10 folding said web of conductive layer material around said  
11 web of non-conducting core material, wherein said  
12 web of conductive layer material is completely  
13 wrapped around said web of non-conducting core  
14 material; and  
15 pressing said web of non-conducting core material wrapped  
16 with said web of conductive layer material by  
17 passing through a pair of rollers to form said  
18 conductive filler.

1 7. (previously presented): The method according to claim  
2 6, wherein said web of conductive layer material includes  
3 substantially non-conductive fibers impregnated with a  
4 conductive resin.

1 8. (original): The method according to claim 7, wherein  
2 said web of conductive layer material is folded around said  
3 web of non-conducting core material such that said web of  
4 conductive layer material overlaps itself on one side of said  
5 web of non-conducting core material, thereby forming a  
6 laminated layer of said web of conductive layer material.

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1       9. (original): The method according to claim 6, wherein  
2       said web of conductive layer material is folded around said  
3       web of non-conducting core material such that said web of  
4       conductive layer material overlaps itself on one side of said  
5       web of non-conducting core material, thereby forming a  
6       laminated layer of said web of conductive layer material.

1       10. (currently amended): A method for making a conductive  
2       filler material in a continuous process comprising the steps  
3       of:

4             selecting a web of conductive material, said web of  
5             conductive material having an interior surface and  
6             an exterior surface, with said interior surface  
7             including a first edge and a second edge;  
8             selecting a first adhesive web;  
9             selecting a second adhesive web;  
10            positioning said first adhesive web on said first edge of  
11            said web of conductive material;  
12            positioning said second adhesive web on said second edge  
13            of said web of conductive material;  
14            selecting a web of a non-conducting core material;  
15            positioning said web of non-conducting core material onto  
16            said interior surface of said web of conductive  
17            material between said first and said second adhesive  
18            webs;  
19            folding said web of conductive material with said first  
20            and said second adhesive webs thereon around said  
21            web of non-conducting core material, wherein said  
22            web of conductive material is completely wrapped  
23            around said web of non-conducting core material; and  
24            pressing said said web of conductive material with said  
25            first and said second adhesive webs thereon folded  
26            around said web of non-conducting core material by

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27 passing through a pair of rollers to form said  
28 conductive filler.

1 11. (previously presented): The method according to claim  
2 10, wherein said web of conductive material includes  
3 substantially non-conductive fibers impregnated with a  
4 conductive resin.

1 12. (original): The method according to claim 11, wherein  
2 said web of conductive material is folded around said web of  
3 non-conducting core such that said web of conductive material  
4 overlaps itself on one side of said web of non-conducting core  
5 material, and further wherein one of said first and said  
6 second adhesive webs is against a top surface of said web of  
7 non-conducting core material and the other of said first and  
8 said second adhesive webs is against said exterior surface of  
9 said web of conductive material, thereby forming a conductive  
10 filler having a laminated layer of said conductive material.

1 13. (original): The method for making a conductive filler  
2 material of claim 10, wherein said web of conductive material  
3 is folded around said web of non-conducting core such that  
4 said web of conductive material overlaps itself on one side of  
5 said web of non-conducting core, and further wherein one of  
6 said first and said second adhesive webs is against a top  
7 surface of said web of non-conducting core material and the  
8 other of said first and said second adhesive webs is against  
9 said exterior surface of said web of conductive material,  
10 thereby forming a conductive filler having a laminated layer  
11 of said conductive material.

1 14. (previously presented): A method for making a  
2 conductive filler material comprising the steps of:

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3       selecting a web of conductive material, said conductive  
4               material including substantially non-conductive  
5               fibers impregnated with a conductive resin; said web  
6               of conductive material having an interior surface  
7               and an exterior surface;  
8       selecting a first adhesive web having a first side and a  
9               second side, said first side of said first adhesive  
10          web covered by a first release liner;  
11          selecting a second adhesive web having a first side and a  
12               second side, said first side of said second adhesive  
13          web covered by a second release liner;  
14          positioning said first adhesive web covered by said first  
15               release liner on said first edge of said web of  
16               conductive material, wherein said second side of  
17               said first adhesive web is in contact with said  
18               interior surface of said web of conductive material;  
19          positioning said second adhesive web covered by said  
20               second release liner on said second edge of said web  
21               of conductive material, wherein said second side of  
22               said second adhesive web is in contact with said  
23               interior surface of said web of conductive material;  
24          pressing to secure said first adhesive web and said  
25               second adhesive web to said web of conductive  
26               material, wherein said pressing is done by passing  
27               said web of conductive material with said adhesive  
28               webs thereon through a first pair of rollers;  
29          removing said first release liner from said first  
30               adhesive web;  
31          removing said second release liner from said second  
32               adhesive web;  
33          selecting a web of non-conducting core material including  
34               non-woven fibers impregnated with a resin;  
35          positioning said web of non-conducting core material onto  
36               said interior surface of said web of conductive

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37 material between said first and said second adhesive  
38 webs;  
39 folding said web of conductive material with said first  
40 and said second adhesive webs thereon around said  
41 web of non-conducting core material at a forming  
42 station by upwardly bending or folding said web of  
43 conductive material to form an unfinished filler;  
44 and  
45 pressing said unfinished filler by passing said  
46 unfinished filler through said second pair of  
47 rollers, wherein sufficient pressure is applied by  
48 said pressing to secure said second side of said  
49 outer adhesive web to said center portion of said  
50 top surface of said unfinished filler, thereby  
51 forming said conductive filler[;].

1 15. (previously presented): The method for making a  
2 conductive filler material of claim 14, wherein said web of  
3 conductive material is folded around said web of non-  
4 conducting core such that one of said first and said second  
5 adhesive webs is against a surface of said web of non-  
6 conducting core material and the other of said first and said  
7 second adhesive webs is against said exterior surface of said  
8 web of conductive material, said bending or folding forming a  
9 laminated layer of said web of conductive material, wherein  
10 said web of conductive material is completely wrapped around  
11 said web of non-conducting core material, thereby forming said  
12 unfinished filler having said laminated layer of said  
13 conductive material, said method thereby resulting in a  
14 conductive filler having said laminated layer of said  
15 conductive material.

1 16. (original): The method according to claim 14, further  
2 comprising the steps of:

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3       selecting an outer adhesive web having a first side and a  
4       second side, said first side of said outer adhesive  
5       web covered by an outer release liner; and  
6       directing said outer adhesive web with said outer release  
7       liner onto a center portion of said top surface of  
8       said unfinished filler, and then completing the step  
9       directing said unfinished filler toward said second  
10      pair of rollers.

1       17. (previously presented): The method for making a  
2       conductive filler material of claim 14 , wherein said web of  
3       conductive material is folded around said web of non-  
4       conducting core such that one of said first and said second  
5       adhesive webs is against a top surface of said web of non-  
6       conducting core material and the other of said first and said  
7       second adhesive webs is against said exterior surface of said  
8       web of conductive material, said bending or folding forming a  
9       laminated layer of said web of conductive material, wherein  
10      said web of conductive material is completely wrapped around  
11      said web of non-conducting core material, thereby forming the  
12      unfinished filler with a top surface having with said  
13      laminated layer of said conductive material, said method  
14      thereby resulting in a conductive filler with a top surface  
15      having said laminated layer of said conductive material.

1       18. (currently amended): A method for making a conductive  
2       filler material comprising the steps of:

3       [[F]]feeding a web of conductive material from a roll of  
4       said web of conductive material at a first unwind  
5       station, said conductive material including  
6       substantially non-conductive fibers impregnated with  
7       a conductive resin; said web of conductive material  
8       having an interior surface and an exterior surface,

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9           with said interior surface including a first edge  
10          and a second edge;  
11          directing said web of conductive material to a second  
12          unwind station having a first and a second roll of  
13          adhesive material, wherein said first roll of  
14          adhesive material includes a first adhesive web  
15          having a first side and a second side, said first  
16          side of said first adhesive web covered by a first  
17          release liner, and further wherein said second roll  
18          of adhesive material includes a second adhesive web  
19          having a first side and a second side, said first  
20          side of said second adhesive web covered by a second  
21          release liner;  
22          unwinding and positioning said first adhesive web covered  
23          by said first release liner on said first edge of  
24          said web of conductive material, wherein said second  
25          side of said first adhesive web is in contact with  
26          said interior surface of said web of conductive  
27          material;  
28          unwinding and positioning said second adhesive web  
29          covered by said second release liner on said second  
30          edge of said web of conductive material, wherein  
31          said second side of said second adhesive web is in  
32          contact with said interior surface of said web of  
33          conductive material;  
34          directing said web of conductive material with both said  
35          first adhesive web with said first release liner and  
36          said second adhesive web with said second release  
37          liner thereon toward a first pair of rollers;  
38          pressing to secure said first adhesive web and said  
39          second adhesive web to said web of conductive  
40          material, wherein said pressing is done by passing  
41          said web of conductive material with said adhesive  
42          webs thereon through said first pair of rollers;

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43 removing said first release liner from said first  
44 adhesive web by using a first liner collector;  
45 removing said second release liner from said second  
46 adhesive web by using one of said first liner  
47 collector and a second liner collector;  
48 directing said web of conductive material with both said  
49 first and said second adhesive webs thereon to a  
50 third unwind station containing a roll of a web of a  
51 non-conducting core material, said web of non-  
52 conducting core material including non-woven fibers  
53 impregnated with a resin;  
54 feeding and positioning said web of non-conducting core  
55 material onto said interior surface of said web of  
56 conductive material between said first and said  
57 second adhesive webs;  
58 directing said web of conductive material with both said  
59 first and said second adhesive webs thereon and also  
60 with said web of non-conducting core material  
61 thereon, to a forming station;  
62 folding said web of conductive material with said first  
63 and said second adhesive webs thereon around said  
64 web of non-conducting core material by upwardly  
65 bending or folding said web of conductive material,  
66 wherein one of said first and said second adhesive  
67 webs is against a top surface of said web of non-  
68 conducting core material and the other of said first  
69 and said second adhesive webs is against said  
70 exterior surface of said web of conductive material,  
71 said bending or folding forming a laminated layer of  
72 said web of conductive material, wherein said web of  
73 conductive material is completely wrapped around  
74 said web of non-conducting core material, thereby  
75 forming an unfinished filler with a top surface

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76 having said laminated layer of said conductive  
77 material;  
78 directing said unfinished filler toward a second pair of  
79 rollers; and  
80 pressing said unfinished filler by passing said  
81 unfinished filler through said second pair of  
82 rollers, wherein sufficient pressure is applied by  
83 said pressing to secure said second side of said  
84 outer adhesive web to said center portion of said  
85 top surface of said unfinished filler, thereby  
86 forming said conductive filler.

1 19. (original): The method according to claim 18, further  
2 comprising the steps of:

3 before directing said unfinished filler toward said  
4 second pair of rollers, directing said unfinished  
5 filler material toward a fourth unwind station  
6 containing a third roll of adhesive material  
7 containing an outer adhesive web having a first side  
8 and a second side, said first side of said outer  
9 adhesive web covered by an outer release liner; and  
10 unwinding and directing said outer adhesive web with said  
11 outer release liner onto a center portion of said  
12 top surface of said unfinished filler, and then  
13 completing the step directing said unfinished filler  
14 toward said second pair of rollers.

1 20. (original): The method according to claim 19, further  
2 comprising the steps of:

3 directing said conductive filler toward a rewind station;  
4 and  
5 winding said conductive filler onto a rewind roll using  
6 said rewind station, wherein said conductive filler  
7 can then be packaged and shipped to a destination.

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1        21. (previously presented): A method for making a  
2 conductive bar comprising the steps of:  
3            selecting a web of conductive material, said conductive  
4            material including substantially non-conductive  
5            fibers impregnated with a conductive resin; said web  
6            of conductive material having an interior surface  
7            and an exterior surface, said interior surface  
8            including a first edge and a second edge;  
9            selecting a first adhesive web having a first side and a  
10          second side, said first side of said first adhesive  
11          web covered by a first release liner;  
12          selecting a second adhesive web having a first side and a  
13          second side, said first side of said second adhesive  
14          web covered by a second release liner;  
15          positioning said first adhesive web covered by said first  
16          release liner on said first edge of said web of  
17          conductive material, wherein said second side of  
18          said first adhesive web is in contact with said  
19          interior surface of said web of conductive material;  
20          positioning said second adhesive web covered by said  
21          second release liner on said second edge of said web  
22          of conductive material, wherein said second side of  
23          said second adhesive web is in contact with said  
24          interior surface of said web of conductive material;  
25          pressing to secure said first adhesive web and said  
26          second adhesive web to said web of conductive  
27          material, wherein said pressing is done by passing  
28          said web of conductive material with said adhesive  
29          webs thereon through a first pair of rollers;  
30          removing said first release liner from said first  
31          adhesive web;  
32          removing said second release liner from said second  
33          adhesive web;

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34 selecting a web of a non-conducting core material, said  
35       web of non-conducting core material including non-  
36       woven fibers impregnated with a resin;  
37 positioning said web of non-conducting core material onto  
38       said interior surface of said web of conductive  
39       material between said first and said second adhesive  
40       webs;  
41 folding said web of conductive material with both said  
42       first and said second adhesive webs thereon around  
43       said web of non-conducting core material at a  
44       forming station by upwardly bending or folding said  
45       web of conductive material, wherein one of said  
46       first and said second adhesive webs is against a  
47       surface of said web of non-conducting core material  
48       and the other of said first and said second adhesive  
49       webs is against said exterior surface of said web of  
50       conductive material, said bending or folding forming  
51       a laminated layer of said web of conductive  
52       material, wherein said web of conductive material is  
53       completely wrapped around said web of non-conducting  
54       core material, thereby forming an unfinished filler  
55       having said laminated layer of said conductive  
56       material;  
57 selecting an outer adhesive web having a first side and a  
58       second side, said first side of said outer adhesive  
59       web covered by an outer release liner;  
60 directing said outer adhesive web with said outer release  
61       liner onto a center portion of said top surface of  
62       said unfinished filler;  
63 pressing said unfinished filler by passing said  
64       unfinished filler through a second pair of rollers,  
65       wherein sufficient pressure is applied by said  
66       pressing to secure said second side of said outer  
67       adhesive web to said center portion of said top

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68                 surface of said unfinished filler, thereby forming  
69                 said conductive filler;  
70                 placing said conductive filler at a top and a bottom of a  
71                 stack of windings;  
72                 wrapping an insulating groundwall around said conductive  
73                 filler with said stack of windings; and  
74                 forming said conductive bar by sealing said insulating  
75                 groundwall.

1                 22. (withdrawn): A forming station for making a web of  
2                 conductive filler, the conductive filler having a web of  
3                 conductive material wrapped around a web of core  
4                 material, comprising:

5                 a die having a U-shaped passageway through which the web  
6                 of the conductive layer material and the web of core  
7                 material are passed, the die turning first and  
8                 second edges of the conductive layer material  
9                 upward;

10                 a first barrier, the first barrier folding the first edge  
11                 of conductive layer material on top of the core  
12                 material; and

13                 a second barrier, the second barrier folding the second  
14                 edge of conductive layer material on top of the core  
15                 material.

1                 23. (withdrawn): The forming station according to claim  
2                 22 wherein said web of conductive layer material includes a  
3                 substantially non-conductive fiber impregnated with a  
4                 conductive resin.

1                 24. (currently amended): A method of making a conductive  
2                 filler, comprising the steps of:  
3                 wrapping a web of conductive material including  
4                 substantially non-conductive fibers impregnated with

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5           a conductive resin around a core material, wherein  
6           an adhesive is between and in contact with at least  
7           a portion of the core material and the web of  
8           conductive material; and  
9           pressing said web of conductive material wrapped around  
10          said web of core material to form said conductive  
11          filler.

1           25. (previously presented) A method for making a  
2          conductive bar comprising the steps of:

3           placing a conductive filler made as defined in claim 24  
4           at a top and a bottom of a stack of windings;  
5           wrapping an insulating groundwall around said conductive  
6           filler with said stack of windings; and  
7           forming said conductive bar by sealing said insulating  
8           groundwall.

1           26. (previously presented) A method for making a  
2          conductive bar comprising the steps of:

3           placing a conductive filler made as defined in claim 1 at  
4           a top and a bottom of a stack of windings;  
5           wrapping an insulating groundwall around said conductive  
6           filler with said stack of windings; and  
7           forming said conductive bar by sealing said insulating  
8           groundwall.